**MWAKICAN JOINT EXAM TEAM**

**FORM 1 PHYSICS MARKING SCHEME**

**END OF TERM 2 – 2015**

1. Length - Metre

Mass - Kilogram

Time - Second

Electric current - Ampere

Thermodynamic temperature – Kelvin

Luminous intensity - Candela

Amount of substance - Mole (Any 3)

2(a) Surveyor’s tape measure

(b) Metre rule

(c) Tailor’s tape measure

3. Circumference = π d

 ✓

 = 22 x 4.2✓ = 13.2

 7

 132cm

 13.2cm

 = 10 times.✓

 ✓ ✓ ✓

4. 145mm x 214mm = 31 030mm2

5. - Mass per unit area ✓

 - Kgm-3 or Kg/m3 ✓

6. Vol of water dropped = 55 x 0.12

 = 6.6 cm3 ✓

 Final water level = 30cm3 – 6.6. cm3✓ 30cm3 + 6.6cm3  = 36.6cm3

 = 23.4 cm3

7(a) 4cm = 0.04m ✓

 V = (0.04)3 ✓

 = 0.000064m3 ✓

(b) P = M

 V

 = 0.512

 0.000064

 8000Kgm-3 ✓

1. Force acting normally per unit area.✓

N/m2  ✓ or Pascals

1. When you suck the straw the air pressure inside it decreases making the atmospheric pressure outside to press the liquid hence it rises on the straw.



- Boil the water for several minutes. ✓

- Replace the cork and allow the container to cool. You may pour cold water on it to cool it faster. ✓

- The container crushed in.

- On cooling, the steam condenses. A partial vacuum is therefore created inside the ✓container. Since the pressure inside is less than atmospheric pressure outside, the container crushes in.✓

1. Pressure at A = Pressure at B

Pg + hpg = Pa ✓

Pg + 0.03 x 13600 x 10 = 103 000✓

Pg + 4080 = 103 000

 Pg = 98 920 Nm-2 ✓

1. (a) P = F ✓ = 160 ✓

 A 0.002

 = 80,000 Nm-2 ✓

(b) Pressure at A = Pressure at B ✓

 = 80 000 Nm-2

(c) F = P X A ✓

 = 80 000 X 0.3 ✓

 = 24 000 Nm-2  ✓

1. Total pressure = Pressure of water Atmospheric pressure

= hpg + 103 000 ✓

= 35 x 1030 x 10 + 13 000 ✓

= 463 500 Pa ✓

1. Greatest pressure = Force

 Smallest area ✓

 = 0.5 x 10

 0.05 x 0.1 ✓

 = 5 = 1000 Nm -2 ✓

0.005

Smallest pressure = Force

 Largest area ✓

 = 5 ✓ = 5\_\_ = 250 Pa ✓

 0.2 x 0.1 0.002

1. Anything that occupies space and has weight. ✓
* Gas ✓
* Liquid ✓
* Solid ✓
1. This is because the particles in gases are wide spread ✓compared to liquid and solids which are closely parked.✓
2. (a) This is because the particles in gases are wide spread compared to liquid and

solids which are closely parked.

(b) This is because the particles of the spray move from region of high concentration to region of low concentration.

1. (a) Smoke particles.

(b) They collided with denser and invisible air particles.

1. The pollen grains are very light and they collided with invisible water particle making them to move in random motion.
2. - It is a push or pull ✓

- Newton ✓



1. (a)

(b) Tension = Weight = mg ✓

 = 90 x 10 ✓

 = 900N ✓

22. When the water was poured on a dry glass slab it spread uniformly because the adhensive force was higher than cohesive force but on a waxed glass slab it formed spherical droplets because cohesive force was higher than adhesive force.

23(a) W = mg ✓

 = 70 x 10 ✓

 = 700N ✓

 (b) W = mg ✓

 = 70 x 1.7 ✓

 = 119N ✓

24. g = w ✓

 m

 = 30 ✓

 7.5

 = 4N/kg ✓

25(a) W = mg

 = 5 x 10 = 50N

 = 15N 6cm

 50N ?

 50 x 6 ✓ = 20cm

 15

(b) 6cm 15N

 2.5cm ?

 2.5 cm x 15N ✓

 6cm

 = 6.25 N ✓

26. Dip the lid in hot water, it will expand,✓ then dip the bottle itself in cold water, it will

contract allowing the opening of the lid to be easy.✓